

CLAIMS

1. A damper assembly for a gas hot water heater comprising:
a drive unit, the drive unit including a pressure diaphragm and a rack,
an axle having a pinion, said pinion engaging the rack; and,
a damper, said damper being coupled to the axle.
2. The assembly of claim 1 wherein said pressure diaphragm is a bellows.
3. The assembly of claim 1 wherein said diaphragm has a first position and a second position, wherein when said diaphragm is in said first position, said damper is rotated to a first position and when said diaphragm is in a second position, said damper is rotated to a second position
4. The assembly of claim 1 wherein said damper is mounted to said axle at a non-central pivot point.
5. The assembly of claim 1 wherein said damper is generally circular.
6. A hot water heater comprising:
a valve control unit having a gas inlet;
a pilot burner;
a main burner; and a
a damper assembly having a pressure diaphragm, a gearing mechanism and a movable damper;
said control unit being coupled to operatively supply gas to said pilot burner, said main burner and said damper assembly;

whereby when gas is supplied to said damper assembly, said diaphragm is moved, causing said gearing mechanism to move said damper from a first position to a second position.

7. The hot water heater of claim 6 wherein said damper assembly also includes a housing, said damper being mounted to said housing.

8. The hot water heater of claim 6 further comprising a control circuit coupled to said control unit whereby said control unit will only supply gas to said main burner when said damper is in said second position.

9. The hot water heater of claim 6 further comprising control circuit having a detector switch coupled to said control unit, whereby said detector, upon the detection of flue gas will cause the control unit to stop supply of gas to said pilot burner.

10. A method of operating hot water heater having a valve control unit, a pilot burner, a main burner and a pressure operated mechanical damper comprising the steps of: supplying gas to said valve control unit from a main gas supply, said valve unit supplying gas to said pilot burner, said valve unit supplying gas to said pressure operated damper causing said damper to move from a first position to a second position.